COMBINED TRANSMITTAL OF APPEAL BRIEF TO THE BOARD OF PATENT APPEALS AND INTERFERENCES & PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136(a) (Large Entity)	Docket No. 01-450

In Re Application Of:

Nian-hua Ou

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/071,376	Feburary 8, 2002	Amy Jo Sterling		3632	1739

Invention:

Laminated Wood Piece and Door Containing the Same

TO THE COMMISSIONER FOR PATENTS:

This combined Transmittal of Appeal Brief to the Board of Patent Appeals and Interferences and petition for extension of time under 37 CFR 1.136(a) is respectfully submitted by the undersigned:

david m goodrich

Signature

Dated: **September 7, 2004**

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David M. Goodrich

Docket No. 01-450
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: application of:
Nian-hua Ou

Serial No. 10/071,376

Filed: Feburary 8, 2002

For: Laminated Wood Piece and Door Containing the Same

Group Art Unit: 3632

Examiner: Amy Jo Sterling

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BRIEF OF APPELLANT

This is a Brief on Appeal submitted in triplicate and in support of the Notice of Appeal previously mailed on June 2, 2004, because this Notice of Appeal was received in the United States Patent and Trademark Office on June 7, 2004 this Appellant's Brief is due to be filed by August 7, 2004. Accordingly, this Brief is being filed, along with a one month extension, by September 7, 2004.

The fees required under § 1.17, and the petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains these items under the following headings, and in the order set forth below:

I. REAL PARTY IN INTEREST

II. RELATED APPEALS AND INTERFERENCES

I. Real Party In Interest

The real party of interest in this appeal is the J. M. Huber Corporation of Edison, New Jersey. This Application is presently assigned to the J. M. Huber Corporation. The recordation date of the assignment for this Application is December 8, 1999 (Reel 012812, Frame 0638).

II. Related Appeals and Interferences

Currently, there are no related appeals or interferences known to Appellants, Appellants' undersigned attorney, or known to the Assignee, that will directly affect or be affected by the Board's decision in the present appeal.

III. Status of Claims

The status of the claims in this application are:

A. Total Number of Claims in Application

Claims in the application are: 1-16

B. Status of all of the Claims

1. Claims canceled: NONE
2. Claims withdrawn from consideration but not cancelled: NONE
3. Claims pending: 1-16
4. Claims allowed: NONE
5. Claims rejected: 1-16

C. Claims on Appeal

The claims on appeal are: 1-16

IV. Status of Amendments

Appellants have not filed any amendments subsequent to the Examiner's final rejection.

V. Summary of the Invention

The present application relates to a laminated wood piece, a door including the laminated wood piece in the form of a stile member, and methods for manufacturing a door including the laminated wood piece as a door stile. The laminated wood piece comprises a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and a wood composite component having layers oriented substantially parallel to the lower surface of the solid hardwood component. The ratio of a thickness of the solid hardwood component to a thickness of the wood composite component is from about 1:1 to about 1:10. (See claim 1.)

As mentioned above, the laminated wood piece may be installed as a stile in a composite door so that the wood composite component faces inwardly towards the center of the door, and the solid hardwood component is on the outer side of the wood composite component to give the edge of the door a pleasing and attractive finish that preferably matches the wood grain of the surface skin veneers. (Specification, Paragraph 0010).

VI. Issue Presented on Appeal

Two issues are presented for review by the Board on appeal:

(I.) Whether claims 1, 2 and 10-16 have been properly rejected under 35 U.S.C. §103 as being obvious in view of the combination of Edstrom, U.S. Patent No. 5,546,715 ("Edstrom") in view of the text of the Present Application at page 1, lines 26-29

("Present Application, page 1"), in further view of the year 2000 web brochure from Buell Door ("Buell").

(II.) Whether claims 3-9 under 35 U.S.C. §103 as being unpatentable over Edstrom, Buell, the disclosure of Figure 5 in the Present Application ("Present Application, Figure 5") and U.S. Patent Application 2003/0008110 A1 to Hsu ("Hsu")

VII. Grouping of the Claims

The Examiner has maintained two separate grounds for the final rejection of claims 1-16, as set forth above. With respect to ground (I) rejecting claims 1, 2 and 10-16, Applicants concede, for the purposes of this appeal only, that the individual claims within this ground stand or fall together.

However, with respect to ground (II) rejecting claims 3-9, applicants assert that claims 5, 7, and 8 are separately patentable and do not stand or fall together with the remaining claims 3, 4, 6, and 9 to which ground (II) pertains. The reasons for why these claims are separately patentable will be discussed in greater detail in the argument below.

VIII. Argument—Rejections under 35 U.S.C. §103

I. Whether claims 1, 2 and 10-16 have been properly rejected under 35 U.S.C. §103 as being obvious in view of the combination of Edstrom, U.S. Patent No. 5,546,715 ("Edstrom") in view of the text of the Present Application at page 1, lines 26-29 ("Present Application, page 1"), in further view of the year 2000 web brochure from Buell Door ("Buell").

(A) The Examiner's Position:

On pages 3-4 of the March 3, 2004 Final Office Action, the Examiner rejected claims 1, 2 and 10-16 under 35 U.S.C. §103 as being obvious in view of Edstrom, the admissions of prior art as set forth in the Present Application, page 1, lines 26-29, and Buell. (Note that on page 2 of the March 3, 2004 Office Action the Examiner mistakenly refers to "Figure 5" of the present application. However, the Examiner makes clear on page 3 of the Office Action that the Examiner is actually referring to the disclosure in the present application at page 1, lines 26-29.

The Examiner argues that Edstrom teaches a laminated wood piece having a solid hardwood component (a veneer piece, 5d) and having an upper surface and a lower surface that are substantially parallel to each other and a wood composite component having layers oriented substantially parallel to the lower surface of the solid hardwood component.

(Office Action of March 3, 2004, pages 2-3). The Examiner concedes that Edstrom fails to disclose a core component that is made from layers of a wood composite material. However Present Application, page 1 teaches that "wood composite materials can be used to form the internal core of a door", in order to have use less wood and to have a cheaper more durable core. (Id.) The Examiner also concedes that Edstrom fails to disclose the specific dimensions and proportions of the present invention, but applies the Buell reference to disclose thicknesses of the solid hardwood component that purportedly overlap the thickness ratios of the solid hardwood component to the wood composite component recited in present claims 1, 10, and 14. (Id.)

(B) Appellant's Position:

The Examiner's conclusion that the present invention, as recited in claims 1, 2, and 10-16 would be obvious in view of Edstrom, Present Application, page 1, and Buell is untenable considering that this reference fails to teach or suggest all of the elements of the present claims. M.P.E.P. §2143 requires that in order to establish a *prima facie* case of obviousness under 35 U.S.C. §103 the Examiner must show that the applied prior art reference teaches or suggests all of the elements of the present claims.

Claim 1 (as amended), recites:

> A laminated wood piece comprising: (a) a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and (b) a wood composite component having layers oriented substantially parallel to the lower surface of the solid hardwood component; wherein the ratio of a thickness of the solid hardwood component to a thickness of the wood composite component is from about 1:1 to about 1:10. (Emphasis added)

Claim 10 (as amended) recites:

> A door including a frame, the frame including at least one stile member, the stile member comprising: (a) a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and (b) a wood composite component having layers oriented substantially parallel to the upper surface of the solid hardwood component; wherein the ratio of a thickness of the solid hardwood component to a thickness of the wood composite component is from about 1:1 to about 1:10. (Emphasis added)

Claim 14 recites:

> A method for manufacturing a door comprising the steps of:
> providing a core; providing a door stile comprising: (a) a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and (b) a wood composite component attached to the

> solid hardwood component, the wood composite component having layers oriented substantially parallel to the lower surface of the solid hardwood component; and securing the door stile to the core, with the wood composite component contacting the core, and the solid hardwood component being on the outer side of the wood composite component. (Emphasis added)

Because the combination of Edstrom, Present Application, Page 1, and Buell does not disclose a laminated wood piece comprising a wood composite component, in which the wood composite component has a layered construction, present claims 1, 2, and 10-16 are allowable and the Examiner's final rejection of these claims should be reversed.

Specifically, Applicants maintain that the Examiner has misinterpreted the Edstrom reference by asserting that the Edstrom reference discloses a wood composite material having multiple layers. Contrary to the Examiner's interpretation, Edstrom makes no mention of wood composite materials nor the presence of multiple wood layers. To understand this point it is important to clarify what is meant by "wood composite" as recited in the present claims. The specification of the instant application defines "wood composite material" as "a composite material that comprises wood and one or more other additives, such as adhesives or waxes." (Paragraph 0022) Such wood composite materials are typically present in the form of multiple layers, (Paragraph 0025), and in an OSB preferred embodiment, these layers are composed of strands cut from wood lumber. (Paragraphs 0029-0031).

Edstrom does not teach the use of a wood composite material nor does Edstrom mention the presence of layers of wood composite material. In fact, the Edstrom reference mentions the word "composite" only once, in the following passage:

> Moreover, because of this special form of tongue-and-groove joint, the back of the composite jamb will be precisely planar, and the flanges will be located accurately relative to the rib. (Col. 4, lines 30-34, Emphasis added.)

This usage in Edstrom of the word "composite" has nothing to do with a wood composite material as recited in the present claims. Rather, Edstrom is using "composite" to describe a door jamb being constructed from several different pieces attached together (see, e.g., Fig. 2, where the jamb is constructed from at least four different pieces -- items 5a-5d.). Edstrom uses "composite" in the sense that many separate pieces were brought together and attached to each other to make the jamb. Edstrom does not characterize the wood material itself as a composite material.

Edstrom also fails to disclose a wood material present in the form of multiple layers. Indeed, the word "layer" appears only once in the entire Edstrom text, as follows:

> The face of the rib component is then veneered by bonding to it a layer of veneer 5d shown in FIGS. 2, 3 and 4. (Col. 2, lines 49-56, emphasis added).

This veneer is composed of solid hardwood and has nothing to do with a wood composite material.

In addition to the omission of any teachings relating to wood composite materials or wood composite materials present in one or more layers, Edstrom explicitly teaches the use of wood materials quite different from the wood composite material recited in the present claims. Specifically, Edstrom consistently makes mention of only two types of material: high-grade and low-grade lumber. To a person of ordinary skill in the art, "lumber" means natural solid wood lumber that is derived from harvested timber wood. This lumber is a minimally processed piece of wood, i.e., the immediate product of a harvested log, and is thus, the very antithesis of the extensively processed wood composite material that composes the presently claimed laminated wood piece.

In fact, the detailed top perspective view shown in Figure 4 makes it clear that the material here forming item 5a is solid wood, not a wood composite material. In the detailed view of figure 4, item 5a clearly has the appearance of solid wood rather than a wood composite material.

It appears that the basis for the Examiner's misinterpretation of the Edstrom references is that the Examiner has misunderstood the distinction between "grains" and "layers". In the portion of the March 3, 2004 Office Action text that bridges pages 2-3, the Examiner writes:

> The patent to Edstrom discloses a laminated wood piece having a solid hardwood component (5d) having an upper surface and a lower surface that are substantially parallel to each other and a wood composite component (5a) having layers oriented substantially parallel to the lower surface of the solid hardwood component. It is evident from Fig. 2, that the lower grade wood [(5a)] has its grain running substantially parallel to the hardwood veneer layers of 5d. (Emphasis added).

The Examiner has identified a grain in the lower grade wood component; the Examiner has previously identified this lower grade wood component as being made from a wood composite material. However, if the lower grade wood (item 5a) was indeed made

from a wood composite material arranged in layers oriented substantially parallel to the lower surface of the solid hardwood component, as alleged by the Examiner, then a wood grain would not be visible in item 5a in the transverse view shown in Figure 2. Rather, what would be visible in figure 2 would be the layers themselves.

As for Buell and its teachings or a wood composite material, the Examiner has not asserted that Buell teaches the presence of a wood composite material, nor the presence of multiple layered wood material. And indeed Buell does not explicitly teach any sort of wood composite material.

Further, even if the Edstrom and Buell references disclosed all of the elements of the present claims, which as Applicants have shown above, they do not, the Examiner has not identified any teaching or suggestion that would have motivated a person of ordinary skill to modify the jamb disclosed in the Edstrom reference by using the stile and door frame proportions disclosed in Buell. In order to combine two prior art references, the Examiner must identify a teaching in the prior art that would suggest the desirability of the combination. (M.P.E.P. §2143).

As summarized above, Edstrom is directed to a door frame, and particularly to the jamb component of the door frame while Buell is directed to a door and particularly to the stile component of the door. The jamb component and the stile component are each entirely separate structural members fulfilling entirely separate functional purposes, and have performance demands dramatically different from each other. Thus, in order to combine these disparate references the Examiner would have to have highly material and direct teachings suggesting their combination.

The Examiner has not identified any such teaching or suggestion. As motivation to combine these references the Examiner asserts that a person of ordinary skill would have been motivated by the teachings of the Buell Brochure to have built the device of Edstrom within the dimensions described by Buell in order to reduce material costs. (Top, Page 5) This proposed motivation is flawed for the reasons that follow.

First, the Examiner relies heavily on the teachings of the Buell brochure, but this brochure does not really have any teachings, except to list several different door dimensions and styles. The Buell brochure isn't a manual for constructing composite door, it is rather an advertisement listing the various dimensions and styles in which the door product is available. Buell doesn't teach

Most importantly, Buell gives no indication that the door rail and door stile constructions it discloses could be used on the door jambs taught by Edstrom. Nor does either reference teach that by using the dimensions set forth in Buell, material costs could be reduced. It is this reduction of material costs that is the purported teaching or suggestion that the Examiner relies on for combining these references.

Second, and on a more fundamental level, the Examiner mentions using the teachings of the Buell to build the Edstrom device. But the Edstrom device is the jamb and lintel portions that frame a door frame, by contrast, the present claims are direct to a laminated wood piece, a method for making a laminated wood piece, and a door. None of the claimed processes or products has anything to do with the framing element for a door that is disclosed in Edstrom. Thus, the device that the Examiner has purportedly assembled from these very disparate prior art elements has no resemblance to the product and methods set forth in the present claims.

(Note that in their Application, the Applicants refer to the internal supporting structure of a door as a door frame, while Edstrom refers to the structure built around a door as a "frame" as well. Nonetheless, these are two entirely different structures.)

Similarly Appellants also note that the Examiner has not identified any teaching or suggestion that would have motivated a person of ordinary skill to modify and combine Edstrom, Buell, and the teachings set forth in the Present Application, page 1, lines 26-29. As has been noted the Examiner also cites Present Application, page 1, lines 26-29 as part of the obviousness rejection. Specifically, the Examiner concedes that Edstrom fails to disclose a core component that is made from layers of a wood composite material, but the Examiner applies the disclosure set forth in the specification on page 1, lines 26-29, which teaches that " 'wood composite materials can be used to form the internal core of a door', in order to use less wood and to have a cheaper more durable core." The Examiner then concludes that, "it would have been obvious that the core referred to by Edstrom could be fashioned from a wood composite material, in order to have a more durable and cheaper core." (Office Action of March 3, 2004, Page 3).

The Applicants disagree with the Examiner's use of the text found in the Present Application, page 1, because there is no teaching or suggestion that would have motivated a person of ordinary skill in the art to combine the teachings of Present Application, page 1 with Edstrom. The term "core" as used by Edstrom and "core" as used in the Present Application, page 1 are two entirely different construction elements. Edstrom

uses the word "core" to indicate a portion of a wood door frame jamb. (Col. 2, lines 42-65; *see also* Figures 2-4, element 6a is the "core"). By contrast, in Present Application, page 1 the "core" is a component of the door itself. Thus, the Examiner is swapping the part of a door frame for part of a door. The cited motivations for making such a modification, because it would make a more durable and less expensive core are irrelevant, in view of the fact that Edstrom is discussing a door frame and Present Application, page 1 is discussing the door itself.

Indeed, there is nothing in the prior art that would have suggested to a person of ordinary skill to combine the references in the manner suggested by the Examiner. While the Examiner is of course allowed to use the Applicants' admissions as prior art, the Examiner may not use the inventive teachings which the Applicant has disclosed for the first time, to reconstruct in hindsight the Applicant's claimed invention. That is what the Examiner has done. There is nothing in Edstrom that would have suggested replacing a wood composite piece for the solid lumber material designated as the "core". Similarly, the prior art admission at Present Application, page 1 is confined entirely to discussing wood composite materials for door frames. Combining Edstrom and Present Application, page 1 would suggest itself only after using the text of the Present Application itself as a template for reconstructing the invention. Such hindsight reconstruction is, of course, impermissible.

For all of these reasons, the Examiner's rejection under 35 U.S.C. §103 based on Edstrom, Present Application, page 1, and Buell is improper, and the board should overturn the rejection of claims1, 2, and 10-16.

II. Whether claims 3-9 under 35 U.S.C. §103 as being unpatentable over Edstrom, Buell, the disclosure of Figure 5 in the Present Application ("Present Application, Figure 5") and U.S. Patent Application 2003/0008110 A1 to Hsu ("Hsu")

(A) The Examiner's Position:

On pages 4-5 the Examiner of the Final Office Action of October 31, the Examiner has rejected claims 3-9 under 35 U.S.C. §103 as being unpatentable over Edstrom, Buell, the disclosure of Figure 5 in the Present Application ("Present Application, Figure 5") and U.S. Patent Application 2003/0008110 A1 to Hsu ("Hsu").

The Examiner applies Edstrom, and Buell as described above and specifically including a laminated wood piece having a width of between 3 cm to 6 cm, and a length of between 120 cm and 305 cm—the subject matter recited in claim 4. The Examiner concedes

that Edstrom, Present Application, Figure 5, and Buell do not specifically recite a material made from oriented strand board, nor do they recite the specific subject matter such as the screw holding strength, the material density, and the split resistance of greater than about 1000 lbs., which are recited in claims 5, 7, and 8. The Examiner addresses claims 5, 7, and 8 separately: on page 5 of the Office Action, the Examiner asserts that the elements recited in claim 5, 7, and 8 are disclosed in Hsu. Specifically, the Examiner writes, "Hsu teaches oriented strand board with a screw holding strength of about 400 lbs to about 1200 lbs...[and], a split resistance of greater than about 1000 lbs., where at least 90 wt% of the strands are oriented substantially parallel to the length of the laminated wood piece ..." As the Examiner has addressed these claims separately, Appellants also believe that these claims are separately patentable the Appellant will address them separately, below.

(It should be noted at this point that the Examiner does not explain the relevance of Present Application, Figure 5. Without any further explanation, the Examiner does mention that "the prior art" is applied as cited above. This is incomplete. In the first obviousness rejection discussed as part of Issue 1, above the Examiner did explain the relevance of the prior art disclosed at Present Application, page 1, lines 26-29, but the Examiner has not cited that portion of the specification in the present obviousness rejection, and so it is not relevant here. Nowhere does the Examiner explain how the Present Application, Figure 5 is relevant to the patentability of the present invention.)

(B) Appellant's Position:

The Examiner's conclusion that the present invention, as recited in claims 3-9 would be obvious in view of Edstrom, Buell, the disclosure of Figure 5 in the Present Application ("Present Application, Figure 5") and U.S. Patent Application 2003/0008110 A1 to Hsu ("Hsu").

(i) With respect to claims 3, 4, 6, and 9.

The Examiner's conclusion that the present invention, as recited in claims 3, 4, 6, and 9 would be obvious in view of Edstrom, Present Application, Figure 5, Hsu and Buell is untenable considering that these references fails to teach or suggest all of the elements of the present claims.

Claims 3, 4, 6, and 9 are believed to be allowable, because these claims are dependent on claim 1, which Applicants believe to be in allowable form for the reasons discussed above.

Additionally, the present claims are patentable because the Examiner has not identified any teaching or suggestion that would have motivated a person of ordinary skill to combine Edstrom, Buell and Hsu. In fact, the Examiner has offered no explanation as to why it would be obvious to combine these three references. Hsu teaches multi-layer lignocellulosic boards. Neither Edstrom nor the Buell references explicitly disclose such a material as far as the Examiner has shown. Even if Edstrom and/or Buell did disclose such a material, the Examiner would still be under the obligation of showing why it would be obvious to combine these references. Nor does the Examiner explain why it would be obvious to combine yet a fourth prior art reference, Present Application, Figure 5, newly applied in the Office Action of October 31, 2003, with the previously applied three prior art references.

For all of these reasons, the Examiner's rejection of claims 3, 4, 6, and 9 under 35 U.S.C. §103 based on Edstrom, Present Application, Figure 5, Hsu and Buell is improper, and the board should overturn the rejection of claims 3, 4, 6, and 9.

(ii) With respect to claims 5, 7, and 8.

The Examiner's conclusion that the present invention, as recited in claims 5, 7, and 8, would be obvious in view of Edstrom, Present Application, Figure 5, Hsu and Buell is untenable considering that this reference fails to teach or suggest all of the elements of the present claims. Particularly, none of these references disclose the screw holding strength as recited in claim 5, the split resistance recited in claim 7, and the strand orientation recited in claim 8. (These parameters are discussed in greater detail in the application, at paragraphs 0051 and 0048, respectively).

The Examiner has previously asserted that the elements recited in claims 5, 7, and 8 are taught by Hsu. The Examiner first asserted this on Page 5 of the Office Action of March 19, 2003. Specifically, the Examiner wrote, "Hsu teaches oriented strand board with a screw holding strength of about 400 lbs to about 1200 lbs...[and], a split resistance of greater than about 1000 lbs., where at least 90 wt% of the strands are oriented substantially parallel to the length of the laminated wood piece ..."

Appellants strongly disagreed with the Examiner at the time because Appellants could not locate any such teachings in Hsu regarding the screw holding strength, the split resistance or the degree of strand alignment. Indeed, it appears that Hsu makes no mention of any of these parameters. Hsu does disclose performance tests such as concentrated static load test, and the fastener ultimate load test. However, these tests

disclosed in Hsu do not appear to have any resemblance to the screw holding strength and split resistance strength ranges recited in the present claims.

Unfortunately, the Examiner has refused to cite with greater specificity where the Hsu reference mentions the screw holding strength, (claim 5), the split resistance (claim 7) and the strand orientation (claim 8). Despite the pleas issued by Appellants in two separate response papers (see Page 7 of the Response filed on February 2, 2004; and page 12 of the Amendment filed July 21, 2003).

Thus, the combination of Edstrom, Present Application, Figure 5, Hsu and Buell fails to disclose **any** of the elements set forth in claims 5, 7, and 8.

Additionally, Appellants wish to reiterate that the present claims are patentable because the Examiner has not identified any teaching or suggestion that would have motivated a person of ordinary skill to combine Edstrom, Buell and Hsu with the Present Application, Figure 5. Appellants direct the Board's attention to page 12, above, where this argument is set forth in greater detail.

For all of these reasons, the Examiner's rejection of claims 5, 7, and 8 under 35 U.S.C. §103 based on Edstrom, Present Application, Figure 5, Hsu and Buell is improper, and the board should overturn the rejection of claims 5, 7, and 8.

Conclusion

In light of all of the reasons delineated herein, Appellants submit that rejected Claims 1-16 are patentable over the art of record. Appellant hereby requests the Board to reverse the decision by the Examiner to finally reject Claims 1-16 in the present Application.

Respectfully submitted,
Nian Ou et al.

September 7, 2004

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IX. Appendix of Claims

Appealed Claims 1-16

Claim 1. A laminated wood piece comprising:

(a) a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and

(b) a wood composite component having layers oriented substantially parallel to the lower surface of the solid hardwood component;

wherein the ratio of a thickness of the solid hardwood component to a thickness of the wood composite component is from about 1:1 to about 1:10.

Claim 2. The laminated wood piece according to claim 1, wherein the thickness of the solid hardwood component is about 0.3 cm to about 1.3 cm, preferably about 0.6 cm to about 1.1 cm, and the thickness of the wood composite component is about 0.6 cm to about 5 cm.

Claim 3. The laminated wood piece according to claim 1, wherein the wood composite component is an oriented strand board.

Claim 4. The laminated wood piece according to claim 3, wherein a width of the piece is about 3 cm to about 6 cm, and a length of the piece is about 120 cm to about 305 cm.

Claim 5. The laminated wood piece according to claim 1, wherein the laminated wood piece has a screw holding strength of about 400 lbs to about 1200 lbs.

Claim 6. The laminated wood piece according to claim 1, wherein the wood composite component is an oriented strand board and has a density of about 35 lbs/ft^2 to about 48 lbs/ft^2.

Claim 7. The laminated wood piece according to claim 1, wherein the laminated wood piece has a split resistance of greater than about 1000 lbs.

Claim 8. The laminated wood piece according to claim 1, wherein the wood composite component is an oriented strand board comprising strands, in which at least 90 wt% of the strands are oriented substantially parallel to the length of the laminated wood piece.

Claim 9. The laminated wood piece according to claim 1, wherein the wood composite component is an oriented strand board containing from about 3 wt% to about 6 wt% of binder, and from about 1% to about 2.5% of a wax additive.

Claim 10. A door including a frame, the frame including at least one stile member, the stile member comprising:

(a) a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and

(b) a wood composite component having layers oriented substantially parallel to the upper surface of the solid hardwood component;

wherein the ratio of a thickness of the solid hardwood component to a thickness of the wood composite component is from about 1:1 to about 1:10.

Claim 11. The door according to claim 10, wherein the door further comprises an additional stile member being arranged substantially parallel to the at least one stile member and both the at least one stile member and the additional stile member have a substantially vertical orientation.

Claim 12. The door according to claim 10, wherein the door further includes a core, a pair of rails, and a pair of opposed doorskins.

Claim 13. The door according to claim 12, wherein the wood composite component of the at least one stile is in contact with the core.

Claim 14. A method for manufacturing a door comprising the steps of:

providing a core;

providing a door stile comprising:

(a) a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and

(b) a wood composite component attached to the solid hardwood component, the wood composite component having layers oriented substantially parallel to the lower surface of the solid hardwood component; and

securing the door stile to the core, with the wood composite component contacting the core, and the solid hardwood component being on the outer side of the wood composite component.

Claim 15. A method for manufacturing a door stile comprising the steps of:

preparing a wood composite panel having several layers and a thickness of about 0.6 cm to about 6 cm;

cutting the wood composite panel into a plurality of wood composite sections, each wood composite section having a width of about 3 cm to about 6 cm;

providing a solid hardwood component having an upper surface and a lower surface that are substantially parallel to each other; and

attaching one of the plurality of wood composite sections to the lower surface of the solid hardwood component, wherein the wood composite section has several layers oriented substantially parallel to the lower surface of the solid hardwood component.

Claim 16. The method according to claim 15, wherein the solid hardwood component has the same width as each of the wood composite sections.